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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,884	02/13/2002	Thomas Scott Dreaper	4246P2434	3614

7590 01/19/2005
Chad W. Miller
7251 West Lake Mead Blvd. Suite 530
Bank West Building, 5th Floor
Las Vegas, NV 89128

EXAMINER

ONEILL, MICHAEL W

ART UNIT	PAPER NUMBER
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3713

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED

FEB 02 2005

TECHNOLOGY CENTER R3700

Office Action Summary	Application No. 10/076,884	Applicant(s) DREAPER ET AL.	
	Examiner Michael O'Neill	Art Unit 3713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,19,20 and 135-141 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,19,20 and 135-141 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Drawings

The drawings were received on 10-21-04. These drawings are approved by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 8, 135, 136 and 138-141 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Over/Under 13 Blackjack.

The reference presents a card game where the player places bets on whether the first two cards in a game of Blackjack sum higher or lower to 13 and wins or loses accordingly to the pay tables given. This game meets the limitations found within the above identified claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3-7, 9, 10, 19, 20, and 137 are rejected under 35 U.S.C. 103(a) as being unpatentable over Over/Under 13 in view of Scarne's teaching of the Casino Side Game known as Under and Over Seven.

Scarne teaches that the genus game of OVER and UNDER has been long going on strong where carnival hustlers are found. Scarne teaches the number chosen as the over/under number and the payout are designed to favorably heavy the house. Therefore, because casinos are in the business to make a profit off the patrons, absent a showing of criticality to a particular over/under number and payouts thereto, it would have been

obvious to one of ordinary skill in the casino and gaming arts to choose which number, the manner of generating the numbers, e.g. dice, tiles and/or cards and the payout thereto as a means to generate a profitable game within the gaming arts.

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Moreover, if the Applicant wishes more weight given to communal cards, then the Applicant needs to claim more than one player playing the game, because the independent claims only require the Examiner provide a reference that can be played with "at least one" player and a solo game meets that limitation and in a solo game the communal cards are the player's cards.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

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of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

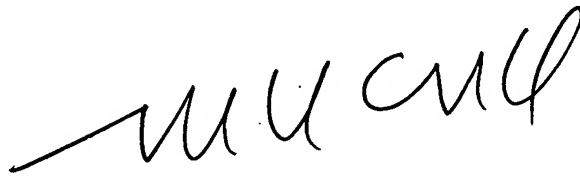
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael O'Neill whose telephone number is 571-272-4442. The examiner can normally be reached on Monday through Friday 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan M. Thai can be reached on 571-272-7147. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MON

A handwritten signature in black ink, appearing to read "M O'Neill", written in a cursive style.

MICHAEL O'NEILL
PRIMARY EXAMINER

Notice of References Cited	Application/Control No. 10/076,884	Applicant(s)/Patent Under Reexamination DREAPER ET AL.	
	Examiner Michael O'Neill	Art Unit 3713	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-			
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Scarne, John, Scarne's New Complete Guide to Gambling, 1974, Simon and Schuster, pages 500, 501, 509, 510.
	V	Gaming Concepts, Inc. OVER/UNDER 13 Blackjack Rules brochure, 1988.
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

OVER/UNDER 13™ Blackjack

NEW! EXCITING! EASY!

Increase your hold 20 - 30%



By allowing your players to bet their first 2 cards are OVER or UNDER 13 you create a brand new game with additional bets at an 8.28% house advantage that takes virtually no additional time!

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RULES OF PLAY

Exclusive approval by the Nevada Gaming Commission

THE BASIC CONCEPT:

OVER/UNDER 13™ is an additional bet allowed on '21' games. A player could bet whether the sum of their initial two cards only would be greater than, or less than 13. A sum of exactly 13 would result in a dealer win. Aces count as 1. Face cards count as 10. The bet would only be offered on shoe games. The regular '21' game is unchanged by the OVER/UNDER 13™ bet.

OVER/UNDER 13™ PROCEDURE:

1. All winning bets pay even money odds.
2. In order to place an OVER/UNDER 13™ bet, a regular '21' bet must also be placed.
3. For any given hand, the OVER/UNDER 13™ bet cannot be greater than the regular '21' bet.
4. All OVER/UNDER 13™ bets are settled before the regular '21' hand is played out.

SIX SAMPLE HANDS

EXAMPLE 1

Player Bet: UNDER
Hand: A-10 = 11.
Outcome: Player Wins

EXAMPLE 2

Player Bet: UNDER
Hand: 8- 9 = 17.
Outcome: Player Loses

EXAMPLE 3

Player Bet: UNDER
Hand: 8-7 = 13.
Outcome: Player Loses

EXAMPLE 4

Player Bet: OVER
Hand: 10-10 = 20
Outcome: Player Wins

EXAMPLE 5

Player Bet: OVER
Hand: 2-3 = 5
Outcome: Player Loses

EXAMPLE 6

Player Bet: OVER
Hand: 3-10 = 13
Outcome: Player Loses

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PROPOSED SCHEDULE OF PAYOUT AND STATISTICAL EVALUATION OF THEORETICAL PERCENTAGE OF GAME

This section defines the methods used to calculate the probabilities and other information needed to evaluate this game.

HAND - The total of the players first two cards.

FREQUENCY OF OCCURRENCE - There are 169 possible hands. The % listed is the number of possible hands that make up that amount divided by 169.

PAYOFF ODDS - All winning bets pay even money.

UNITS WON - Number of playing decisions X
Frequency of occurrence X Payoff odds.

UNITS NET - Units won minus units lost.

SUMMARY

"OVER 13" - win .46745	"UNDER 13" - win .44971	Operator's Net
lose .53254	lose .55029	W/L Percentage
<u>-.06509</u>	<u>-.10058</u>	<u>+.03284</u>

A player betting "OVER 13" bet is at approximately a 6.5% disadvantage. A player betting "UNDER 13" is at approximately a 10% disadvantage. Overall, the house has approximately an 8.3% advantage on the "OVER/UNDER 13" bet. The overall payout for the bet is 91.7 cents per \$1.00.

Mathematical Performance Projection

THE FOLLOWING TABLES MATHEMATICALLY SIMULATE 100,000 PLAYING DECISIONS EACH. ONE IS THE ORIGINAL BET ON EACH DECISION. THE BREAKDOWNS BY HANDS ARE AS FOLLOWS:

TABLE I - "OVER 13" Bet

HAND	FREQ. OF OCCUR.	PAYOFF ODDS	UNITS WON	UNITS LOST	UNITS NET
20	.09467	1 - 1	9467	0	9467
19	.04734	1 - 1	4734	0	4734
18	.05325	1 - 1	5325	0	5325
17	.05917	1 - 1	5917	0	5917
16	.06509	1 - 1	6509	0	6509
15	.07101	1 - 1	7101	0	7101
14	.07692	1 - 1	7692	0	7692
13	.08284	N/A	0	-8284	-8284
12	.08876	1 - 1	0	-8876	-8876
11	.09467	1 - 1	0	-9467	-9467
10	.05325	1 - 1	0	-5325	-5325
9	.04734	1 - 1	0	-4734	-4734
8	.04142	1 - 1	0	-4142	-4142
7	.03550	1 - 1	0	-3550	-3550
6	.02959	1 - 1	0	-2959	-2959
5	.02367	1 - 1	0	-2367	-2367
4	.01775	1 - 1	0	-1775	-1775
3	.01183	1 - 1	0	-1183	-1183
2	.00592	1 - 1	0	-592	-592
TOTALS	.99999*		46745	-53254	-6509

*NOTE 1.0 DUE TO ROUNDING ERRORS.

TABLE II - "UNDER 13" Bet

HAND	FREQ. OF OCCUR.	PAYOFF ODDS	UNITS WON	UNITS LOST	UNITS NET
20	.09467	1 - 1	0	-9467	-9467
19	.04734	1 - 1	0	-4734	-4734
18	.05325	1 - 1	0	-5325	-5325
17	.05917	1 - 1	0	-5917	-5917
16	.06509	1 - 1	0	-6509	-6509
15	.07101	1 - 1	0	-7101	-7101
14	.07692	1 - 1	0	-7692	-7692
13	.08284	N/A	0	-8284	-8284
12	.08876	1 - 1	8876	0	8876
11	.09467	1 - 1	9467	0	9467
10	.05325	1 - 1	5325	0	5325
9	.04734	1 - 1	4734	0	4734
8	.04142	1 - 1	4142	0	4142
7	.03550	1 - 1	3550	0	3550
6	.02959	1 - 1	2959	0	2959
5	.02367	1 - 1	2367	0	2367
4	.01775	1 - 1	1775	0	1775
3	.01183	1 - 1	1183	0	1183
2	.00592	1 - 1	592	0	592
TOTALS	.99999*		44971	-55029	-10058

*NOTE 1.0 DUE TO ROUNDING ERRORS.

FOUR MONTH FIELD TRIAL ANALYSIS

The following analysis is based on a 13 week field trial with data accumulated for two hours per shift.

	<u>HANDS</u>	<u>%</u>
Over/Under 13" Hands Played	11,780	19
"21" Hands Played w/o O/U 13	<u>50,154</u>	<u>81</u>
Total "21" Hands Played	<u><u>61,934</u></u>	<u><u>100</u></u>

<u>Dollars Bet</u>	<u>\$</u>	<u>%</u>
Over/Under 13 "	49,769	10
"21"	<u>442,185</u>	<u>90</u>
Total	<u><u>491,954</u></u>	<u><u>100</u></u>

CAESAR'S TAHOE RESORT

Field Trial - OVER/UNDER 13™

- OVER/UNDER 13™ GAME - (BJ-51)

DROP	319,567.
------	----------

WIN	71,058.
-----	---------

HOLD %	22.23%
--------	--------

- CONTROL GAME - (BJ-50)

DROP	312,856.
------	----------

WIN	57,661.
-----	---------

HOLD %	18.43%
--------	--------

- HOUSE ADVANTAGE

OVER 13	6.5%
---------	------

UNDER 13	10.5%
----------	-------

✓ AVG. 8.2

•NOTE: Figures are for the entire sixteen week field trial period, beginning on Day Shift, Jan. 23, 1988 through Swing Shift on May 13, 1988.

-CONCEPT OBSERVATIONS-

"..It is an exciting alternative, I think, to a game that has been around for many, many years...it is something that stands well for the future of the industry with this continued type of creativity."

JOHN P. O'REILLY, Chairman, Nevada Gaming Commission.....
Before the N.G.C., December 17, 1987

"..If we could have picked any figures we wanted, we couldn't have asked for better results.... we are very excited about getting the game out there."

BOB MOON, Vice President, Casino Operations.....
Caesar's Tahoe Resort.

"..This sounds so very easy, anybody should understand, even people who don't play can understand what's over and what's under 13. I think it's an excellent concept. Anything that's attractive to the customer is certainly worth looking into."

DOYLE ANDREWS, Casino Manager, Peppermill Casino, Reno.....

"..Players love it. They really get excited watching those first two cards come out. Everybody finds it very simple to play."

DEBBIE BEBIX, 21 Dealer, Caesar's Tahoe Resort.....

"..The Game of "21" may never be the same again."

GAMING AND WAGERING MAGAZINE, May, 1988.....

"..We have had OVER/UNDER 13 in operation for six months. It has proven to be a popular addition to our table games line up. I believe OVER/UNDER 13 will be a viable game for many years, and serve to pump new life into a portion of our industry that has not seen any innovation in a long time."

DALE DARROUGH, Assistant Casino Manager,
Caesar's Tahoe Resort

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by John Scarne

Simon and Schuster *New York*

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Designed by Jack Jaquet

Manufactured in the United States of America

1 2 3 4 5 6 7 8 9 10

19. Casino Side Games

Since casino operators, legal and illegal, seldom overlook an opportunity to grab an extra buck, any available space not suitable for a major standard casino game like Bank Craps, Black Jack or Roulette is usually occupied by one or more minor banking games known as *side games*. Most of these are games of chance of the carnival variety such as one finds at amusements centers, county and state fairs, American Legion and firemen's carnivals, and church bazaars.

The seven most popular side games, listed in order of their popularity, are: the Big Six, the Money Wheel, the Race Horse Wheel, Chuck-a-Luck, Hazard, Beat the Shaker, and Under and Over Seven.

The American gambling public loses about \$500 million annually playing these games, of which \$150 million is pocketed by the casino operators of the hundreds of big and small carpet and sawdust joints, and \$350 million by the amusement centers, fairs, carnivals, bazaars and fund-raising affairs.

These side games are all clever exercises in mathematical strategy designed to give the operators a big favorable percentage and at the same time make it as difficult as possible for the player to calculate the percentage. Casino operators and carnival hustlers have learned by experience that these games will get the players' dough much faster and more surely than any of the major casino games. The reason is that the house percentage averages three or four times more, running from a minimum 8% to a high of more than 20%. Betting limits vary, ranging from 10¢ to \$10 for some games and for others from \$1 up to \$100 and sometimes \$200 or \$300.

In casinos today it is the novice gamblers, male and female, who

give the side games their big action. Any gambler who knows even a little about house percentages and how they work avoids these games like the plague.

THE BIG SIX

The Big Six, or Jumbo Dice Wheel, is a giant wheel of chance five feet in diameter which, with its pedestal, stands eight feet high. It is the most popular of the casino side games and often earns the house \$1,000 or more per day.

There are 54 spaces around the rim of the wheel's surface, each of which shows one side of three dice bearing different combinations of the numbers 1 through 6. There is a layout which also bears the numbers 1 through 6. The players *cover* (put their money on) one or more numbers on the layout and the dealer spins the wheel in a clockwise direction. Projecting *posts* (nails) on the outer edge of the wheel's rim separate the spaces and pass by a leather indicator at the top. When the wheel comes to a stop, the section in which the indicator rests is the winning combination.

This is how one of the "Gaming Guide Souvenir Booklets," which most luxury casinos distribute free to hotel and casino guests, describes the payoff odds.

IT'S THE BIG SIX FOR BIG THRILLS. You'll enjoy a thrill a minute at this spell-binding Wheel of Fortune. If you put \$1 on 1 and the wheel stops at 1-2-3, you get back \$1 plus the \$1 you invested since the 1 showed only once. If the wheel stops at 1-1-2 you get back \$2 plus the \$1 you invested since the \$1 shows twice. This holds true for all the numbers, i.e., if you play \$1 on 5 and the wheel stops on 4-5-6, you get back \$1 and your dollar. If it stops at 5-5-5, you receive \$3 and your \$1.

If you are still not convinced that this is the game for you, the Big Six dealer will explain further advantages of the game. He tells you that "there are three winners and three losers on each and every spin of the wheel." He illustrates this by putting a silver dollar on each of the six numbers on the layout, then he points to a space on the wheel marked 1-2-3 or a space marked 4-5-6 and tells you that if the wheel stops on either of these spaces the player who wagered \$1 on each of the six numbers on the layout can't lose any money. The player would win three \$1 bets and lose three \$1 bets, thus breaking even. He demonstrates this by collecting the three silver dollars on the losing numbers and uses them to pay off the three winning numbers. "Nothing," he adds, "could be fairer than that."

But what the casino booklet and the dealer fail to point out is that there are only six sections on the wheel that are dead even and contain

The game is a dead even proposition except for the ties; they constitute the bank's advantage. To calculate this we simply find out how many ties can be expected in the long run. The banker stands to throw the number 2 (two aces) once out of 36 throws. The player's chances are the same. The chance that they will tie by throwing two Aces each is $1/36 \times 1/36$, or $1/1,296$.

If we multiply the probabilities on each of the numbers 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 and then add, we find that in the long run ties can be expected 146 times. Dividing the favorable chances of 146 by the total chances of 1,296 gives us a percentage in favor of the bank at Beat the Shaker of $11\frac{43}{162}\%$, or, in decimals: $11.26+\%$.

Some carnival operators who want to speed up the action and take the chump even faster use only one die. The operator's advantage in this case is $16\frac{2}{3}\%$.

Cheating at Beat the Shaker

The most common method, when the dice are thrown from a cup, is the use of a *slick dice cup* which is gaffed by having its inner surface slicked or polished, and a pair of first-flop dice which are so heavily loaded that, when properly thrown from the slick cup, they will always show fives and sixes (making the combination 10, 11 or 12). On the dealer-cheat's turn, he shakes the cup with an up-and-down and slightly rotary motion of his arm. Instead of tumbling at random inside the cup, the dice spin around the slicked inner surface like horses on a *chump twister* (merry-go-round).

The centrifugal force created by the rotary up-and-down motion of the cup causes the loaded sides of the dice to face the cup's inner surface. When the cheat slides the two dice out and across the playing surface, the desired unloaded sides are up and he gets a high count of 10, 11 or 12. He can win whenever he likes—which is most of the time.

For information on how to spot loaded dice see page 307.

UNDER AND OVER SEVEN

This game, also called *Over and Under*, is an old-time carnival game which is still going strong at outings, picnics, carnivals, fairs or wherever the carnival hustler is found. It is also very popular in many honky-tonk gambling joints. Like Beat the Shaker, it is usually dealt from a chute when played outdoors, and indoors by dice girls from a cup.

A pair of dice, the cup (or chute) and a betting layout with three betting spaces are used. The center is marked with a large 7, the space on the left reads "Under 7," that on the right, "Over 7." The player puts



Layout for Under and Over 7.

his money on any one of the three spaces, and throws. A bet on under 7 wins if he throws a 2, 3, 4, 5 or 6, and the player is paid off at even money; he loses if he throws 7 or more. A bet on over 7 wins if he throws an 8, 9, 10, 11 or 12, and he is paid off at even money; he loses if he throws 7 or less. If he puts his bet on the 7 space and throws 7 (a natural) he wins and is paid off at odds of 4 to 1; any other number loses.

It looks as though the operator is leaning over backward to give his customers a fair chance to win. He's leaning all right, like the leaning tower of Pisa, but in the other direction. Since there are six ways to make 7, the player who bets on that space can expect to win $\frac{1}{6}$ of the time. If the operator paid off at 5 to 1 it would be an even-up proposition. He pays 4 to 1 and has an advantage on that bet of a big $16\frac{2}{3}\%$.

Of the 36 combinations with a pair of dice, 15 will total less than 7; the player has 15 chances out of 36 to win a bet on under 7, making the correct odds 7 to 5 against him. The operator pays off at even money and again has a favorable edge of $16\frac{2}{3}\%$. The same holds true for the over 7 space.

It doesn't matter on which space you put your money, that stiff $16\frac{2}{3}\%$ P.C. will grind down your bankroll almost as fast as if your pocket was being picked.

Cheating at Under and Over Seven

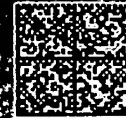
Since the operator seldom handles the dice and since that take of $16\frac{2}{3}\%$ is plenty big enough, the operator rarely cheats. Player cheats, however, have been known to beat operators by switching crooked dice (see page 307) into the game.

BARBOUTH

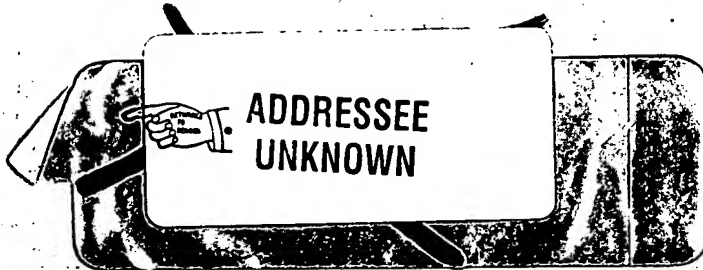
A favorite among Greek and Jewish players, Barbouth (also known as Barbudey, Barbooth, Barabout) is now popular in this country and often played for large stakes. It is a dead even game, shooter and fader each having an exactly even chance.

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